

## TEACHING CHILDREN WITH AUTISM TO SEEK HELP WHEN LOST IN PUBLIC

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Children with autism may not develop safety skills (e.g., help-seeking behaviors) without explicit teaching. One potentially hazardous situation is when a child with autism becomes separated from caregivers in a retail establishment or other public setting. The purpose of this study was to evaluate a treatment package (rules, role playing, and praise) delivered in the natural environment for teaching 3 boys with autism to seek assistance from store employees when they became lost. Treatment was effective, and help-seeking behaviors generalized to untrained stores for all participants.

*Key words:* assistance, autism, help seeking, lost, retail stores

One of the primary goals of intervention for children with autism is increased independence. However, with increased independence and less supervision come increased risk and the need to teach safety repertoires (Clees & Gast, 1994). For example, children may become lost while out shopping in the community with caregivers.

Relatively few studies have examined strategies to teach children with autism what to do if they become separated from their caregivers in a store or other public location. Taylor, Hughes, and Richard (2004) taught teenagers with autism to respond to a vibrating pager when lost by going to the nearest adult and handing over a card requesting assistance. Other experimenters taught persons with autism or moderate cognitive disabilities to use mobile phones to obtain assistance when lost (Hoch, Taylor, & Rodriguez, 2009; Taber, Alberto, Hughes, & Seltzer, 2002; Taber, Alberto, Seltzer, & Hughes, 2003). The use of mobile phones and pagers is promising, but both strategies depend on the availability and proper use of technology, which may not be viable in all circumstances.

Experimenters in at least one study taught typically developing children to seek help without the aid of technology when they were separated from a caregiver in public. Pan-Skadden et al. (2009) taught children to seek assistance from cashiers using instructions, modeling, rehearsal, and feedback in the home followed by in situ assessment and training, as needed. The current study aimed to extend this line of research by including children with autism, training exclusively in the natural environment, and testing generalization of skills across retail stores.

## METHOD

### *Participants and Settings*

Participants in this study were three boys, ages 10 to 11 years, with a diagnosis of autism. They were receiving 8 to 12 hr per week of one-to-one behavioral intervention from a community-based service provider. The participants' parents had expressed concern over their children becoming lost in public. Inclusion criteria required that the participants demonstrate basic vocal-verbal skills (e.g., vocal imitation, vocally request preferred items), have a history of learning via role play, and have the ability to follow simple rules, such as "When I clap, stand up." In addition, participants' parents reported that the children were able to discriminate between employees and customers in retail stores.

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All probe and training trials were conducted in various departments of several retail stores. To minimize competing contingencies, areas of the store that contained preferred items (e.g., video games and toys) were not included. Trials were conducted as part of each participant's regularly scheduled therapy. A therapist who was trained by the first author via written protocol, vocal instructions, and modeling implemented all trials. Each trial lasted approximately 5 min and occurred one to three times per day, once or twice per week.

#### *Data Collection and Interobserver Agreement*

A point system was used to reflect each participant's performance during each trial. Participants earned 1 point for engaging in each of the following behaviors: (a) calling "Mom" or "Dad" above normal conversational level, (b) locating a store employee (defined as approaching the employee, facing him or her, and standing within 1 m of him or her), and (c) informing the employee that he was lost (e.g., "I'm lost"). However, a score of 3 points was awarded automatically if a participant successfully found a worker and informed the worker that he was lost, regardless of whether he yelled for his caregiver first.

Data were recorded by the therapist and confederates, who surreptitiously observed the participants. Interobserver agreement scores were calculated by dividing agreements on the occurrence or nonoccurrence of each target behavior by agreements plus disagreements and converting the resulting quotient to a percentage. Interobserver agreement was collected on 75% of trials and was 100%.

#### *Procedure*

A nonconcurrent multiple baseline design across participants (with no more than 5 months elapsing between participants) was used to evaluate training across three phases: baseline, training, and posttraining.

Baseline data were collected in one location for Quinton and in two different locations for

Randy and Tito. During this phase, the participants' parents took them to retail stores (e.g., Albertson's, Target) and gave them a task to complete (e.g., "Go pick out a new toothbrush and then come back and get me"). Unknown to the participant, one or more confederates were observing him. When the participant returned to the location where he last saw his caregiver, the confederate started a timer and observed the participant for 5 min to determine what help-seeking behaviors he exhibited. No prompts were provided. After 5 min elapsed, the caregiver returned to the participant. If the participant said something about it, the parent responded with a neutral comment (e.g., "Oh, I'm sorry") and then redirected the conversation to another topic.

During each trial of the training phase, the caregiver, participant, and therapist went to a store that, per parent report, was frequented by participants and their parents. A situation was contrived during each training trial in which the child was separated from his caregiver (i.e., no data were collected on visits during which the child did not get lost). Training occurred in one location for both Quinton and Tito and in two locations for Randy. Training stores differed from baseline locations for everyone except Quinton.

Prior to each trial, the therapist explained what to do if he got lost. The rules consisted of: (a) "If you ever get lost, you should yell out 'Mom!' or 'Dad!'" (b) "If that doesn't work, go find a worker," and (c) "When you find a worker, tell him or her that you are lost." After reviewing the rules, the participant's caregiver walked away quietly while the participant was looking at an item. The therapist then initiated a role play, which consisted of the therapist exclaiming to the participant, "Oh no! Where's Mom? Uh-oh, we're lost. What should you do?" Next, the therapist used a vocal prompting hierarchy to occasion the correct response. The first prompt consisted of asking the participant what he should do when lost (i.e., "What are

you supposed to do first [next]?""). If the participant did not respond correctly to this prompt, the second prompt was to ask a question about incorrect responses (e.g., "Should you just stand here?" "Should you leave the store?"). If the participant did not answer "no" or respond correctly, a vocal directive was delivered (e.g., "Yell 'Mom!' or 'Dad!'"; "Go find a worker"). The therapist delivered vocal praise after the participant completed the final step of informing the employee that he was lost.

The mastery criterion for training was a score of 3 points on two consecutive trials. After one (for Tito) or two (for Quinton and Randy) independent trials, a final trial was conducted without the therapist. This was done to eliminate the therapist's presence as a potential source of stimulus control over responding. The final training trial was conducted like a baseline probe, with the exception that the participants were informed that they were going to become lost. Rules also were reviewed at the start of the final training trial. After completion of all three target behaviors, the therapist, who observed the participant from a distance, returned and provided vocal praise.

The posttraining phase was identical to the baseline phase. All posttraining trials occurred at least 1 day after the last training trial, except the first posttraining trial for Tito. For Quinton and Randy, the first posttraining trial occurred 12 days after training. As in baseline, one or more confederates were present to collect data. In the event that the participant failed to respond correctly after 5 min of separation from his parent, the therapist approached the participant and delivered a prompt: "Are you lost? What are you supposed to do?" This part of the protocol was necessary only for Tito during Trial 11. If the participant engaged in all target behaviors independently, his parent returned to him immediately. All baseline store locations were tested in the posttraining phase for all participants, as were novel store locations for Quinton and Tito. Workers were not informed

of the study to keep posttraining trials as naturalistic as possible. Workers' responses to help-seeking behavior were not measured, but they usually acknowledged the child and called to have his parent paged.

During all trials in baseline and posttraining, one or two confederates followed the participant around to ensure his safety. At no point in the study did participants show signs of emotional distress or encounter dangerous situations while lost.

## RESULTS AND DISCUSSION

Figure 1 depicts scores for help-seeking behaviors across phases. All participants scored 0 or 1 point during baseline. Quinton and Randy acquired the correct responses rapidly during training, and accurate posttraining performance occurred in untrained stores for both children.

Tito required a slightly longer training phase (i.e., seven trials) before he acquired accurate performance. In addition, during his first posttraining trial at Target, Tito needed a prompt to yell "Mom!" after which he located a store employee and stated that he was lost, thus scoring only 2 of 3 points. He then received one additional training trial at Target before his next posttraining probe in the same location. Tito performed accurately at Target (Trial 13) and a subsequent untrained store (Trial 14). On Trial 15 at Fry's Electronics, Tito played a video game for the duration of the trial. Just as the 5-min trial ended, he independently informed a store employee that he was lost before the therapist was able to provide a prompt. After one additional training session, Tito's correct responding resumed on subsequent probes in two untrained stores.

Overall, results suggest that rules, role playing, prompting, and praise in the natural environment were effective in establishing help-seeking behaviors of three boys with autism. Furthermore, at the end of the intervention, all participants demonstrated accurate performance

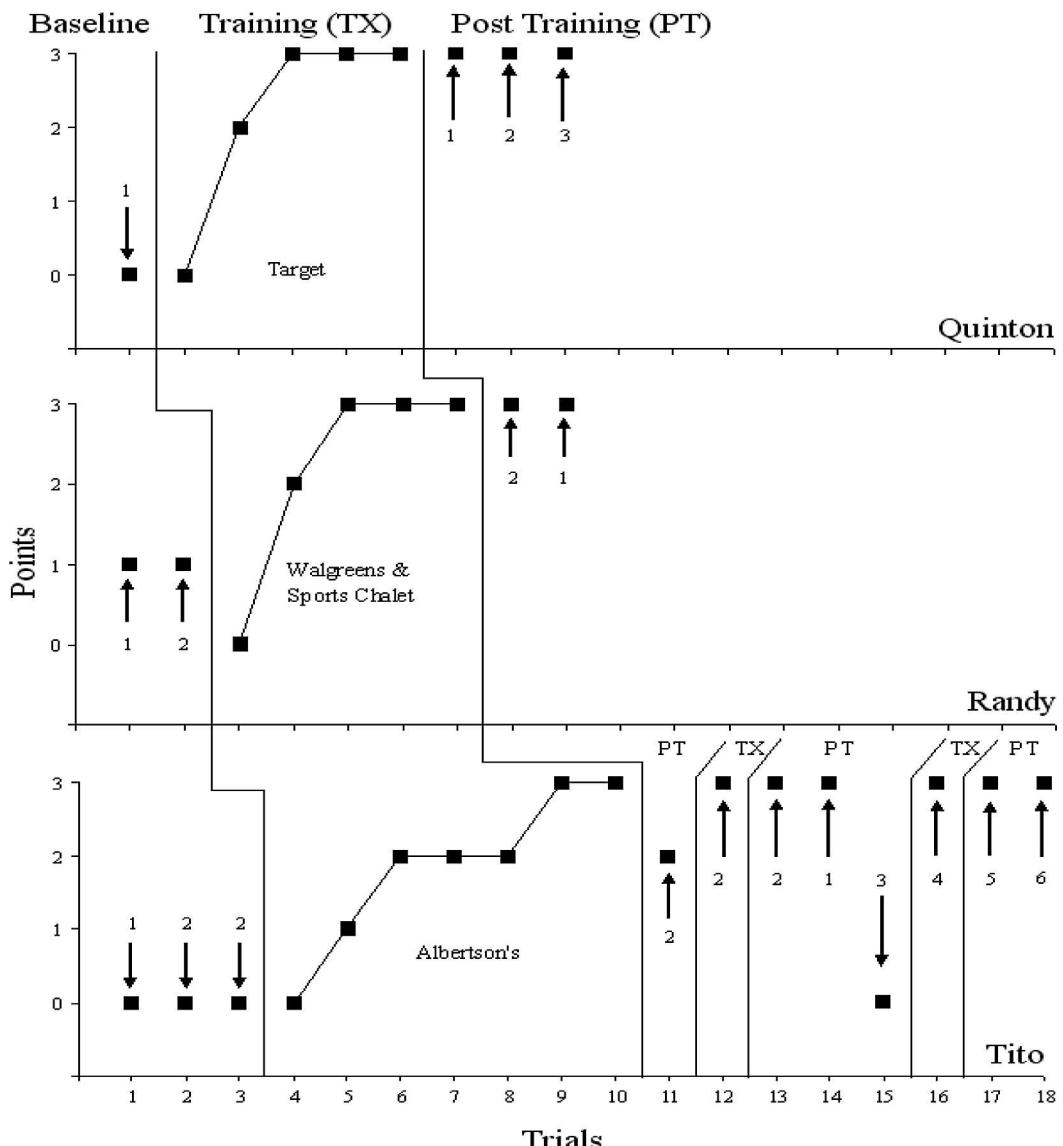


Figure 1. Number of points earned by participants during baseline, training, and posttraining for Quinton (top), Randy (middle), and Tito (bottom). Arrows indicate the locations of each trial. Locations for Quinton: Target (1), Vons (2), Ross (3). Locations for Randy: Target (1), Walmart (2). Locations for Tito: Brookstone (1), Target (2), Frys Electronics (3), Best Buy (4), Macy's (5), Kohl's (6).

in untrained stores and in completely natural environments, thereby passing a real-world test (Cooper, Heron, & Heward, 2007).

However, some limitations warrant discussion. Anecdotally, participants in this study had well-developed verbal skills and a repertoire of rule-governed behavior; therefore, the generality of these findings to children with less advanced verbal

repertoires remains unknown. Future research should confirm the diagnosis and skill profile of participants with autism prior to investigation. A second limitation is that the last two generalization probes for Quinton and Tito were conducted in locations in which baseline measures were not obtained. It is possible, albeit unlikely, that the participants would have responded accurately in

these stores during baseline. Finally, it is not possible to determine which components of treatment were responsible for the change in performance or whether a simpler treatment package would be effective. Future studies should address these limitations and evaluate long-term maintenance of help-seeking behaviors.

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